

**REMARKS**

Claims 1-22 are all the claims pending in the application. Claim 1 has been amended to recite that the tempering is performed at a temperature less than 250°C based on, for example, page 6, lines 38-39 of the specification.

Applicants respectfully submit that with the entry of the proposed amendments, the present application will be in condition for allowance. Accordingly, entry of the above amendments is respectfully requested.

In addition, the Examiner is respectfully requested to indicate that the drawings filed on March 10, 2006 have been accepted.

Further, the election of claims 1-12 is affirmed.

**I. Response to Rejection of Claims 1-12 under 35 U.S.C. §103(a)**

Claims 1-12 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Nakaoka et al. (US 4,336,080) in view of Chatfield et al. (US 4,159,218).

Applicants respectfully traverse the rejection.

Claim 1 has been amended to recite that the optional tempering is performed at a temperature less than 250°C. In contrast, the process of Nakaoka performs an overaging at a temperature above 260°C, which is different from the tempering at a temperature less than 250°C recited in claim 1. The tempering operation is different from an overaging treatment because an overaging treatment has the effect of suppressing the martensite, which is important in the present invention. Thus, Nakaoka does not disclose the step of tempering at the claimed temperature range.

In addition, Nakaoka teaches away from the use of a temperature less than 250°C. Nakaoka discloses that an over-aging temperature of under 260°C is not desirable since the

resultant insufficient precipitation of solid-solution carbon leads to a low value of elongation of up to 35% in spite of the large amount of bake-hardening and the internal friction is as high as over  $5 \times 10^{-4}$ . *See* col. 9, lines 53-58. Thus, one of ordinary skill in the art would not be motivated to use a temperature of less than 250°C for the tempering step.

Furthermore, regarding the effect of overaging on the microstructure of Nakaoka, a simple comparison between the Examples of Nakaoka and Chatfield show that no martensite can be present in Nakaoka. Chatfield claims the presence of 10 to 25% of martensite and the Example steels show tensile strengths varying between 633 and 651 MPa. On the contrary, table 2 of Nakaoka discloses tensile strengths varying between 358 and 478 MPa. Thus, it is respectfully submitted the Examples of Nakaoka do not contain martensite.

For the above reasons, it is respectfully submitted Nakaoka does not contain martensite because (1) the process disclosed in Nakaoka requires step of overaging, which has a metallurgical effect to turn the eventual martensite into ferrite, and (2) in Table 2 of Nakaoka, the tensile strengths are between 360 and 480 MPa compared to the values obtained for Examples for the present invention, which ranges from 650 to 720 MPa.

Furthermore, one of ordinary skill in the art would not combine Nakaoka with Chatfield for at least the following reasons.

The steels of Nakaoka do not contain martensite, whereas the steels of Chatfield contain martensite, and the tensile strength of the steels are different.

In addition, Nakaoka discloses several objects among which the increasing of the Lankford value of the steel is mentioned on column 4, as stated by the Examiner. In this same column, Nakaoka discloses more details on how to achieve such a goal, particularly at lines 43 to 46, Nakaoka discloses "reducing the content of substitutional solid solution, particularly that

of manganese". This is why the manganese amount of Nakaoka is limited to 0.25%. Chatfield discloses 1.25 to 1.8% of manganese, which is at least 5 times more than in Nakaoka. The amount of manganese in Chatfield completely changes the nature of the steel. Further, the manganese amount in Chatfield is considered to be a reduced one, as the addition of chromium does not allow adding more manganese to get the required tensile strength.

Thus, since the steels of Nakaoka and Chatfield are different, the desired properties would be different, and it would not have been obvious to combine the two references.

Furthermore, the fact that adding chromium to the steel of Chatfield, which contains a very small amount of manganese to obtain a tensile strength level as high as 600 MPa with a not-degraded Lankford value, could not have been predicted or expected by one of ordinary skill in the art. Additionally, one of ordinary skill in the art would not expect a martensite-containing microstructure to have a good Lankford value based on the disclosures of Nakaoka and Chatfield or the combination thereof.

In view of the above, the present invention is not obvious in view of Nakaoka and Chatfield, and it is respectfully submitted that claims 1-16 are patentable over the cited art.

Accordingly, withdrawal of the rejection is respectfully requested.

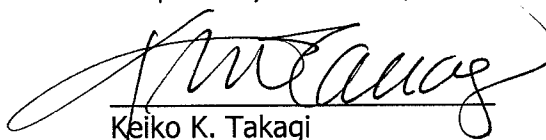
## **II. Conclusion**

For the foregoing reasons, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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